

# **Kodiak Management Area Commercial Herring Sac Roe Fishery Field Operational Plan 2007**

by

**Joe Dinnocenzo**

and

**Geoff Spalinger**

April 2007

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Alaska Department of Fish and Game

Division of Commercial Fisheries



## Symbols and Abbreviations

The following symbols and abbreviations, and others approved for the Système International d'Unités (SI), are used without definition in the following reports by the Divisions of Sport Fish and of Commercial Fisheries: Fishery Manuscripts, Fishery Data Series Reports, Fishery Management Reports, and Special Publications. All others, including deviations from definitions listed below, are noted in the text at first mention, as well as in the titles or footnotes of tables, and in figure or figure captions.

Weights and measures (metric)		General		Measures (fisheries)	
centimeter	cm	Alaska Administrative		fork length	FL
deciliter	dL	Code	AAC	mid-eye-to-fork	MEF
gram	g	all commonly accepted		mid-eye-to-tail-fork	METF
hectare	ha	abbreviations	e.g., Mr., Mrs., AM, PM, etc.	standard length	SL
kilogram	kg			total length	TL
kilometer	km	all commonly accepted			
liter	L	professional titles	e.g., Dr., Ph.D., R.N., etc.	<b>Mathematics, statistics</b>	
meter	m			<i>all standard mathematical</i>	
milliliter	mL	at	@	<i>signs, symbols and</i>	
millimeter	mm	compass directions:		<i>abbreviations</i>	
		east	E	alternate hypothesis	H <sub>A</sub>
		north	N	base of natural logarithm	<i>e</i>
		south	S	catch per unit effort	CPUE
		west	W	coefficient of variation	CV
		copyright	©	common test statistics	(F, t, $\chi^2$ , etc.)
		corporate suffixes:		confidence interval	CI
		Company	Co.	correlation coefficient	
		Corporation	Corp.	(multiple)	R
		Incorporated	Inc.	correlation coefficient	
		Limited	Ltd.	(simple)	r
		District of Columbia	D.C.	covariance	cov
		et alii (and others)	et al.	degree (angular)	°
		et cetera (and so forth)	etc.	degrees of freedom	df
		exempli gratia		expected value	<i>E</i>
		(for example)	e.g.	greater than	>
		Federal Information		greater than or equal to	≥
		Code	FIC	harvest per unit effort	HPUE
		id est (that is)	i.e.	less than	<
		latitude or longitude	lat. or long.	less than or equal to	≤
		monetary symbols		logarithm (natural)	ln
		(U.S.)	\$, ¢	logarithm (base 10)	log
		months (tables and		logarithm (specify base)	log <sub>2</sub> , etc.
		figures): first three		minute (angular)	'
		letters	Jan,...,Dec	not significant	NS
		registered trademark	®	null hypothesis	H <sub>0</sub>
		trademark	™	percent	%
		United States		probability	P
		(adjective)	U.S.	probability of a type I error	
		United States of		(rejection of the null	
		America (noun)	USA	hypothesis when true)	α
		U.S.C.	United States	probability of a type II error	
			Code	(acceptance of the null	
		U.S. state	use two-letter	hypothesis when false)	β
			abbreviations	second (angular)	"
			(e.g., AK, WA)	standard deviation	SD
				standard error	SE
				variance	
				population	Var
				sample	var
<b>Weights and measures (English)</b>					
cubic feet per second	ft <sup>3</sup> /s				
foot	ft				
gallon	gal				
inch	in				
mile	mi				
nautical mile	nmi				
ounce	oz				
pound	lb				
quart	qt				
yard	yd				
<b>Time and temperature</b>					
day	d				
degrees Celsius	°C				
degrees Fahrenheit	°F				
degrees kelvin	K				
hour	h				
minute	min				
second	s				
<b>Physics and chemistry</b>					
all atomic symbols					
alternating current	AC				
ampere	A				
calorie	cal				
direct current	DC				
hertz	Hz				
horsepower	hp				
hydrogen ion activity	pH				
(negative log of)					
parts per million	ppm				
parts per thousand	ppt,				
	‰				
volts	V				
watts	W				

***REGIONAL INFORMATION REPORT NO. 07-3***

**KODIAK MANAGEMENT AREA COMMERCIAL HERRING SAC ROE  
FISHERY FIELD OPERATIONAL PLAN 2007**

by

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April 2007

The Regional Information Report Series was established in 1987 to provide an information access system for all unpublished division reports. These reports frequently serve diverse ad hoc informational purposes or archive basic uninterpreted data. To accommodate timely reporting of recently collected information, reports in this series undergo only limited internal review and may contain preliminary data; this information may be subsequently finalized and published in the formal literature. Consequently, these reports should not be cited without prior approval of the author or the Division of Commercial Fisheries.

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## ABSTRACT

The 2007 Kodiak sac roe herring *Clupea pallasii* fishery will be monitored by two Alaska Department of Fish and Game (ADF&G) vessels and two shore based field crews. Crews will be tasked with monitoring the fishery to obtain harvest information. Crews will also be responsible for collecting 400-500 herring from each purse seine section and 200-300 herring from each gillnet section for age, weight, and length analysis. Field crews will communicate with office staff through the single side band radio (SSB) or the satellite telephone and may call the department cell phone 24 hours a day at **907-539-5495**.

Key words: Herring, *Clupea pallasii*, Kodiak Management Area (KMA), Sac Roe Fishery, operational plan, 2007

## INTRODUCTION

This field operational plan is provided to direct ADF&G employee activity in monitoring the Kodiak Management Area (KMA) commercial herring *Clupea pallasii* sac roe fishery. This commercial fishery harvests herring prior to spawning for a roe product that is primarily consumed in Japan. Guideline harvest levels (GHLs) in tons are established by the ADF&G before the season by geographical areas that are referred to as sections (Figure 1). The primary goal of the ADF&G field monitoring program is to control commercial fishery harvest so section GHLs are not exceeded. This is achieved by closely watching the fishery to assess effort and catch and reporting that information to fishery managers. Fishery managers will announce closures of the commercial fishery by emergency order (EO) to limit the amount of herring harvested. Field crews will also obtain commercial catch samples of whole herring that will be later analyzed in a laboratory for age, length, and weight (AWL) information. All field employees should be knowledgeable about the 2007 Kodiak Area Commercial Herring Sac Roe Fishery Harvest Strategy (Wadle et al., *in press*). This document informs the commercial fishermen of section GHLs and how the department will manage the 2007 fishery to achieve these goals. Information is also enclosed concerning food purchases along with equipment, state vehicle, and bunkhouse use. Prior to field deployment, crews should read and be familiar with department standard operating procedures (SOPs) concerning vehicle use, camping, and small vessel safety. All field personnel are required to have current CPR and first aid certification.

## DEPARTMENT STAFFING, FIELD CAMP LOCATIONS, AND SCHEDULES

### OFFICE STAFF

Area Management Biologist	Jeff Wadle
Asst. Management Biologist	Joe Dinnocenzo
Asst. Management Biologist	Geoff Spalinger
Fishery Biologist	Iris Caldentey
Fish & Wildlife Technician	vacant

Jeff Wadle will supervise all herring staff during the herring sac roe fishery. A newly hired expediter will provide logistics support for field crews and conduct catch sampling. Joanne Shaker is the office receptionist and will take messages concerning fishery activity if other office staff are not available. Seasonal ADF&G employees may stay at the bunkhouse. Please inform management office staff if you may be using this facility. You must sign in with Matt Foster to stay at this facility and are responsible for keeping the bunkhouse clean.

## **FIELD STAFF**

Two state vessels will be on the fishing grounds to help manage the fisheries, assess herring stocks and provide logistic support to the shore based field crews. Two shored-based field crews will be initially stationed in the Eastside District.

### **R/V K-Hi-C**

Boat Officer

Capt. Daniel Wilson

Area Fishery Management Biologist

Jeff Wadle

Fishery Research Biologist

Matt Foster

The crew aboard the R/V K-Hi-C will observe the Uganik District fisheries and depart Kodiak on April 12. Matt Foster will direct hydroacoustic surveys with Biosonics sonar equipment from April 12-14 with assistance from Mark Witteveen. Fishery management activities will commence on the morning of April 15 and continue through early May, as needed.

### **R/V Resolution**

Boat Officer

Capt. Dennis Cox

Management Biologists

Iris Caldentey

Geoff Spalinger

Joe Dinnocenzo

The R/V Resolution will transport both field crews to the Eastside District, departing on April 11. After transporting the crews, Joe Dinnocenzo and possibly Jeff Wadle will board the vessel and will depart to the Danger Bay on April 13 or 14. Management activities will begin on the morning of April 15 and continue until the fishery is closed. The R/V Resolution will then move to the Uyak District and begin hydroacoustic surveys and fishery monitoring.

### **Amee Bay Crew**

Fishery Technician (Crewleader)

Jon Becker

Fishery Technician

Dave Goodie

Jon Becker and Dave Goodie will be stationed in Amee Bay in the East Sitkalidak Strait Section on April 12. Jon Becker will be the crewleader. This crew will have the 22' Dog Salmon skiff and an outboard powered Achilles raft for fishery monitoring duties. This crew monitors the fisheries within Sitkalidak Straits. This crew may be moved to the Alitak District after the Sitkalidak Straits fisheries are over.

### **Kiliuda Bay Crew**

Fishery Technician (Crewleader)

Tim Chiles

Fishery Technician

Jason Fox

Tim Chiles and Jason Fox will be stationed in Kiliuda Bay on approximately April 13. Tim Chiles will be the crewleader. This crew will be equipped with the deep-V 4.3 m Naiad skiff and an outboard powered Achilles raft for fishery monitoring duties. After the Kiliuda Bay fisheries are over, this crew may be moved to the Outer Ugak Bay Section (Hidden Basin).

## EQUIPMENT

Field equipment for the commercial fisheries herring management projects is stored at the ADF&G warehouse on Rezanof Drive. At the warehouse, tents and camp gear can be found in the first floor end bin on the north side of the building. Additional gear (rafts, lines, anchors, etc.) can be found in the middle van north of the warehouse. Fuel, propane, and gas cans can be found in the small, gray colored, metal sided, shed referred to as the fuel shed. The fuel shed is located also to the north of the warehouse and a combination is needed to unlock this building. You are required to collect, maintain, and return your camp's equipment at the end of the season. For keys and combinations to the various locks that will be needed, see Joe, Geoff or Iris. Ask office staff if you need assistance locating gear.

Check with the ADF&G office staff before making ANY purchases beyond groceries for your field camp. Budgets are limited and ADF&G office staff will need to approve any equipment purchases. Efforts should be made by all field crews to minimize the costs of groceries purchased.

The ADF&G commercial fisheries management office has one vehicle (brown van) that is available for seasonal staff to use for transportation to the warehouse, lab, and when purchasing supplies. The van is for official use only; any personal use of the van must be approved by office staff. The van must be parked at the ADF&G office when not in use. This also means the van cannot be left at the bunkhouse at night.

Each of the shore based field camps will need the following items:

1. **TENTS** - Set up the tent to ensure the proper poles and rainfly are present. There is a tent platform for the Amee Bay crew and the Cabelas "Bighorn Tent" will fit on the platform. There is a new Eureka tent also available if needed for the Amee Bay crew. There are two new Cabelas Outfitter tents for the Kiluida Bay crew. New tents should not be used for cook tents; older tents are available at the warehouse that can be used for cook tents or for additional storage.
2. **VISQUEEN OR TARP** - Use for tent ground cloth, keep food covered, and make a rain fly or lean-to.
3. **ACHILLES RAFT** - Make sure proper floorboards, air pump and pump-hose, oars, and patch kit are included. Assemble and inflate raft and check for leaks.
4. **OUTBOARD MOTOR** - Check lower unit lube level. Bring spare spark plugs and lower unit lube. Make sure you have the proper gas hose and tank for your motor, bring an extra gas hose. Don't forget the 2-cycle oil for the motor. Gas tanks are stored in the fuel shed.
5. **COOKSTOVE & HOSE** - Check to assure it works. Propane tanks are in the fuel shed.
6. **COOKWARE, SILVERWARE, & DISHES** -As needed for the crew.
7. **COOLER** - Buy a bag of ice during grocery shopping.
8. **LANTERN** - Remember the extra mantels, blazo, and make sure it works.
9. **SINGLE SIDE BAND (SSB) RADIO and SATTELITE PHONE** - Make sure the radio suitcase contains the black coaxial cable and antenna (3.230 MHz frequency). Examine the satellite phones to make sure the battery is charged and the phone is operational.
10. **12-VOLT BATTERY** - Make sure to charge battery. (Battery must be transported in a case).

11. **ELECTRIC FENCE** - (Kiliuda Bay crew only) This comes with it's own battery and solar charger.
12. **SOLAR PANEL** - Check wires and connections.
13. **HERRING KIT** – a plastic tote should contain the following:
 

Outboard lower unit lube	Flares	Reflective tape
Hatchet	Nails	Outboard oil
Funnel for filling lantern	Seine twine	Sample bags/Tags
Collapsible water jug	Flashlight (extra battery)	Duct tape

Other extras you may want to add:

Rubber gloves	Extra raft chamber valve	Extra flashlight batteries
1 lb. canister of propane	Clothes pins	

Extra outboard gas hose
14. **PERSONAL FLOATATION DEVICES (PFD's)** - All ADF&G employees are required to wear PFDs while working aboard a raft, skiff, tender, or fishing vessel. All herring shorebased crewmembers will wear an Exposure Suit while working from a skiff or raft monitoring the fishery.

The following items can be found in the fuel shed:

15. **PROPANE TANK & BLAZO** - Make sure propane tank is completely full and you have sufficient blazo (white gas) for the lantern. (Propane and gas can be purchased at North Pacific Fuel, not at other stores or gas stations).
16. **OUTBOARD GAS TANK, HOSE, OIL & GAS** - be sure to know the correct mixture of your motor. Take at least 20 gallons of gas.

These items can be found in the office:

17. **FIREARM & CLEANING KIT** - Rifles, shotguns, and ammunition are available at the office, check with office staff. Know how to clean, load and carry the firearm **safely**.
18. **OBSERVATION EQUIPMENT** - binoculars and/or a spotting scope, handheld VHF radio (bring extra batteries), GPS, and digital camera.
19. **EMERGENCY EQUIPMENT**-
 

Emergency Position Indicator Radio Beacon (EPIRB)

Firefly Rescue Light

First Aid Kit, (Check the kit to be aware of its contents and be sure nothing has expired) the first aid kit may be supplemented with the items listed in (Appendix A1.).
20. **KODIAK HERRING KIT** - A plastic tackle box that includes:
 

2 Bic lighters	Radio fuses	2 emergency candles
Lantern mantles	Tide book	2 pencils & 2 pens

21. **TOOL BOX** - A plastic tackle box that includes:

Roll of wire	Electrical tape	labeling tags
WD40	Teflon tape	Shoe Goo
Pliers	Tent seam sealer	Spark plug wrench
assorted screwdrivers	Adjustable Wrench	Spare outboard plugs
Combination wrench set	Flat file	vice grips

22. **PAPER WORK** - a Herring Notebook will be provided for each herring camp and will include the following items:

Kodiak herring fishery daily summary log

Tide Book

Harvest Strategy, Season Summary, and Stat. Chart

2 copies of ADF&G herring regulations

Code sheets for catch reporting of seine vessels and tenders

5 xerox copies of a marine chart for the working area

Timesheets                      Scratch paper                      Yellow Write-in-the-Rain logbook

Clipboard                      Plain white paper                      Yellow writing pad

Manual for your outboard                      First Aid/Safety Guide booklets

23. **GROCERIES** - Buy sufficient groceries for approximately 10 days, include some dried or canned foods in case supply flights are delayed. Items needed include matches, dish soap, toilet paper, paper towels, garbage bags, along with food items.

- **Safeway Grocery Purchases require the use of the ADF&G Safeway Card; see Joanne Shaker. DO NOT use your personal phone number for the Safeway Club Card discount use 486-1829. All Fish and Game purchases are tax exempt. Tell the clerks your purchases are tax exempt. Check the receipts to make sure you are not charged sales tax. Purchases at Wal-Mart require a One Card; see office staff, (some grocery items, such as paper towels, plastic bags, etc., are less expensive at Wal Mart.)**
- **You may NOT purchase any personal items (i.e. toothpaste, gum, shampoo, vitamins, newspapers, magazines, sunglasses etc). If you are unsure please check with your supervisor BEFORE purchasing. The purchase of personal items is considered a purchasing violation and you will be responsible for payment.**
- **PERSONAL GEAR** – Employees must provide for their comfort and safety with warm clothes, and polyester filled sleeping bag. The department will provide rain gear and extra-tuf boots.

At the end of the field season, please make sure all equipment from the entire camp gets put away properly and in the correct place. A few items such as lanterns, SSB radios, and batteries probably will be shared with salmon weir camps. If you plan to return next year try and consolidate the storage of that gear for your future use.

**Please Note:** It is the crew leader's responsibility to make sure equipment problems are identified with a labeling tag. Information on the tag should include the item's condition, repair information, if

any, other comments, the date and your name. This will alert the people back in town what items need maintenance. Labeling also speeds up equipment selection when preparing for the next season.

## CAMP SET UP

Following are suggestions for setting up your herring field camp.

- 1) Once you are standing on the beach, move and stack all your supplies out of any immediate tidal influence. Use a tarp to keep gear dry while setting up your camp. Make sure your camp and all gear are above the extreme high tides expected during the month.
- 2) Take time to carefully search the area to find an appropriate campsite. Use the terrain or vegetation to help shelter your tents from the wind. The strongest winds and rains come from the northeast and southeast. Strong winds can occur from the west but generally without rain. A ground cloth (visqueen or a tarp) for the tent is needed to keep the inside of the tent dry and protect the bottom of the tent.

It is strongly suggested that you locate the cook tent and food away from your sleeping tent, to avoid problems from bears. You should keep a clean camp. All garbage will be burned in a fire-safe location daily or seal garbage in plastic bags. Garbage can be sent to town via tenders or on supply flights if double bagged. As an additional precaution, the Kiliuda Bay crew should install the electric fence around the cook tent.

- 3) Pick a tent location from which you can string the SSB radio antenna. The radio is a high priority item for assembling after arrival, as well as making sure the site is a suitable location for using the satellite phone. The SSB antenna should be stretched tightly between two trees, bushes, poles, hills, or whatever is available, and should be kept a reasonable height off the ground so wandering deer, bears, or people will not be snared. To lengthen the span of the antenna to reach that perfect place, add a piece of seine twine to the end. For peak performance make sure no vegetation is touching the antenna. Arrange the radio on its case inside the tent. Keep the radio away from moist ground or precipitation. Make sure the terminal clips are attached to the correct battery terminals. The battery can stay outside, under the tent fly. Hook up the solar panel and position it to get maximum exposure to the sun (usually east or southeast exposure); it will charge the battery on cloudy days too.

Frequencies available on the SSB radio are: 3.230 MHz-- Fish and Game, 2.450 MHz-- charter planes and chatter, and 4.125 MHz-- National marine weather at 8:00 AM and 6:00 PM., USCG emergency frequency, boat chatter, ADF&G announcements. **Note: You can also get current, accurate time by monitoring Coordinated Universal Time on 5.000 MHz or 10.000 MHz 24 hours per day. Check your watch before the fishery starts.**

- 4) Setting up the raft can be a time consuming task. Some helpful hints for raft assembly include: partially inflating, fitting the stern board and first two bow boards in place before attempting the middle two. Do not jump on the middle boards to make them flatten out. Once you've installed the floorboards and inflated the raft, store it and the motor above high tide line when not in use, or rig up a secure running line. Try to avoid dragging the raft over barnacles, jagged rocks, or mussels. It is suggested that you carry tools included in the tackle box for minor repairs while using the raft. You will also want to carry along the handheld VHF, EPIRB, flares, and a flashlight. **Do not hesitate to call fishing vessels on the VHF if you may need assistance, try calling on VHF channel 6 or in an emergency channel 16.**

## COMMUNICATIONS

Communications with the ADF&G office can be accomplished by two methods, with SSB radio or satellite phone. When calling the office, say the place you are calling first, followed by your call sign if using the SSB radio or your name if you are calling in on the satellite dispatch system. You may use the satellite phone to call the office by dialing directly if you **MUST** get through to the office staff or for EMERGENCY situations. Please allow office staff time to come to the radio or phone to reply.

Kodiak ADF&G radio schedules will occur at **8:10 AM, 2:00 PM, and 8:00 PM daily**. Other schedules may also occur if requested. The R/V Resolution monitors the 3.230 MHz frequency from 7:30 AM to 11:00 PM daily and also has phone capabilities if needed to contact/relay information to the office or if you have an EMERGENCY. If SSB radio communications are not possible or if you have confidential information (fishery or personal) use the dispatch service or call one of the office staff directly with the satellite phone.

If the radio reception is poor, stand by on the Satellite Phone Dispatch service or call the office.

Call signs, dispatch numbers, and phone numbers are as follows:

SSB Radio: WON 32 Kodiak (office)

Office Phone Number: 486-1830

Jeff Office Number: 486-1808

Office Sat. Phone Dispatch Number: #7410

Jeff Home Number: 481-2974

After hours, or if the above numbers are busy, try:

**Office Cell Phone Number – (907) 539-5495**

ALL Field camps SSB Radio: WNJI 929, followed by the location (e.g. WNJI 929 Amee Bay)

K-Hi-C SSB: WNJI 929

Sat. Phone Dispatch #7412

Resolution SSB: WBR6941

Sat. Phone Dispatch#7411

### **In May:**

Joe Office Number 486-1807

Joe Home Phone: 486-5014

During radio schedules you will need to report weather conditions. This report will include cloud ceiling, wind direction and speed, visibility and precipitation. Please relay all catch information for the fishery through the dispatch service or use the code sheet provided in the herring notebook to maintain confidentiality.

ADF&G office staff does become concerned whenever you miss a regular radio schedule. **Be sure that you keep all regular radio schedules with the office. If you foresee missing a schedule, let someone know. Remember the department vessels generally keep their phones and radios on most of the day.**

The satellite phone dispatch service can be an excellent way to contact a specific boat and get confidential harvest information from fishermen when they are no longer in close enough proximity to contact in person. A list of boats and their dispatch numbers will be provided to field crews.

## WORK SCHEDULE

Herring movement and arrival timing of herring in fishing areas is difficult to assess. However, trends in commercial fishery timing and herring spawning do exist. Using this information, Kodiak herring management staff position monitoring crews in areas of likely harvest effort. Crews assess the herring harvest so that the established guideline harvest levels are not exceeded. At times, crews are stationed in areas where fishery activity has yet to begin. There may be several days before fishing activity requires full time monitoring. Necessary monitoring time increases with effort.

Weather greatly influences the effectiveness of the herring fishery and the time needed to monitor it. High winds, rain or snow, and poor visibility limit the effectiveness of spotter pilots. Field crews, under similar weather conditions, have limited access to the fishing grounds. During times of adverse weather, it is difficult for field crews to stay warm and dry. It may be that the best that the monitoring crews can do during these times is to watch fishing activity from shore and listen on the VHF for chatter between planes and/or boats or ask for harvest estimates via the satellite dispatch (Remember this information is confidential. Never solicit this information over either a SSB or VHF radio).

At other times fishery monitoring can be hectic, when large amounts of herring arrive in a fishing area in a short time. There may be a shift in effort from other fishing areas and many boats may converge for a harvest. In such situations, a near continuous monitoring of the fishery is necessary to prevent over fishing.

Under the present budgeting system, 30 hours of overtime per month is allowed. This equates to 7.5 hours per weekend. Two person monitoring crews must schedule work time to provide adequate fishery coverage. Crew leaders are responsible for scheduling work hours not to exceed the 30 hours of overtime per month. If a crew leader thinks they may exceed the overtime limit, they should contact office staff for authorization. Following is an example of how field crews might structure their work schedules to monitor the fisheries within the allowed time frame. Adjustments to this schedule may be necessary should herring fishery activity occur or increase during a period when the crew is not scheduled to work.

## SUGGESTED KODIAK SAC ROE HERRING FISHERY WORK SCHEDULE

### ODD NUMBERED DAY OF THE MONTH

Herring Fishery Opening - NOON

Time	Activity	Time in Hours
07:45-08:15	Morning radio schedule	0.5
10:00-11:00	Prepare raft/skiff for opening (fuel, inflate, load gear, launch)	1.0
11:00-12:00	Check or contact all fishing boats in area being monitored. Observe start of opening for a fair start	1.0

-continued-

Time	Activity	Time in Hours
(Continued)		
12:01-12:45	Check all seine sets for catch. Estimate catch volume, location, and obtain AWL sample.	0.75
13:45-14:15	Radio schedule reporting effort and catch data.	0.5
14:16-14:30	Record catch and effort data in field notebooks and maps.	0.25
14:31-15:00	Field maintenance on raft/motor and camp equipment.	0.5
18:45-19:45	Check on all seine sets occurring during the afternoon. Check gill-net vessels, that have pulled gear for catch information.	1.0
19:45-20:15	Evening radio schedule, recording of catch and effort data in field notebooks.	0.5
20:16-21:45	Check all seine sets occurring since 1945 hours. Check gill net vessels for catch and secure skiff for the night.	<u>1.5</u>
		Total 7.5

## SUGGESTED KODIAK HERRING SAC ROE FISHERY WORK SCHEDULE

### EVEN NUMBERED DAYS OF THE MONTH

Herring Fishery - Closing at NOON

Time	Activity	Time in Hours
07:00-07:45	Prepare raft/skiff for operation, check on all fishing boats in the area for overnight and morning catch.	0.75
07:45-08:30	Morning radio schedule, reporting current catch and effort data.	0.75
08:45-12:15	Monitor the fishery. Obtain catch data for the area. Make sure all boats stop fishing at NOON.	3.5

-continued-

Time	Activity	Time in Hours
(continued)		
12:15-13:45	Tally catch results from fishing boats and tenders. Maintaining equipment.	1.5
13:50-14:20	Radio schedule, report catch data to the office. Record data in field notebooks and on maps.	0.5
19:45-20:15	Evening radio schedule, report vessel movements into and out of your area. Report updates in catch.	<u>0.5</u>
		Total 7.5

## **OBSERVATIONS TO MAKE**

Herring spotter aircraft will likely be searching for herring schools. Note the type of plane and color combination of the plane. Spotter planes give valuable clues for monitoring the fishery. A constant circling at a given spot may indicate herring have been seen from the air. Whenever the plane(s) begin circling and boats are present in the area, that's a strong sign that fish may have been spotted and the fishery is about to commence in the area.

Similar behavior of a fishing vessel circling back and forth over one area using a scanning or down sounding sonar is another indicator that herring may have been located. Many boats have acquired scanning sonar which enables them to find herring schools without the aid of a spotter plane. Both gillnetters and seiners utilize sonar. Boats fishing with sonar slowly cruise the shoreline or criss-cross known spawning areas, looking for schools of herring. The use of sonar increases when planes are unable to fly due to bad weather, darkness, etc. This fishing method is difficult to monitor. Herring are often caught late in the evening, and the field crew may be unaware of the activity. If a lot of boat activity occurs in the late evening, check the boats at first light for harvest information.

Boat movement into the area should be scrutinized, noting the type of boat (gillnetter, seiner, or tender), arrival speed (full speed, cruising, slow), and the time of day (during open/closed periods). All should be watched closely. A good indication that a seiner is preparing to make a set is when the skiff man is seen in the skiff. Seiners speeding to a certain portion of the bay may indicate that fish are present to be harvested.

Gillnetters must be in the general vicinity of their nets (5 AAC 27.520 (b), 2006). Visually estimate the amount of herring caught when the nets are checked. If a few hundred pounds are shaken out, investigate the total catch from that vessel at a more convenient time. REMINDER: Each gillnet permit holder must work their gear from a separate boat. Some gillnetters may have two permit holders onboard one fishing vessel and tow a skiff from which they fish the second set of. The gear set from the skiff must be picked and pulled into the skiff to be legal (5 AAC 27.515(b)(1), 2006).

## **PERMIT HOLDER INTERVIEWS**

Fishermen and spotters have provided excellent information to field crews concerning fishing activity, biomass estimates, and spawning areas. Field crews should ask key questions to determine this important information. These questions can be incorporated into a normal conversation, so as not appear to be rude. Listening carefully often reveals enough basic information, and then all you

need to do is ask for the details. **Please document all herring biomass observations from spotter pilots, spawn observations, and juvenile herring biomass estimates in the herring field notes and on forms provided.**

**Questions for spotter pilots:**

Number of schools seen, if any?  
Tonnage of herring observed?  
Where schools are located?  
What is happening in other bays?  
Effort in other areas?  
What boats are you flying for?

**Questions for purse seiners:**

Boat capacity (tons)?  
Are you fishing together with other seine vessels?  
Do you have a tender and what is its capacity?  
Ripeness of fish harvested or released?  
Size of fish (gram size) in catch?  
Roe percentage?  
Where are other boats in your combine?  
Where were your fish caught?  
If they have a sonar, ask about the amounts of herring seen?

**Questions for gillnetters**

Any harvest on board?  
Ripeness of fish caught?  
Are they are seeing any herring  
on their downsounder?  
Do they know the location of any other  
gillnetters?

**Questions for tenders:**

Tender capacity (tons)?  
Who are you tendering for?  
Do you have herring onboard from another area or  
this area?

## **GUIDELINES FOR COLLECTING CATCH ESTIMATES**

- \* Get into the habit of taking a Rite-in-the-Rain notebook and pencil with you during any skiff outing.
- \* Insure that your watch is set to the correct time. Coordinated universal time is broadcast continuously on SSB frequency 5.000 and 10.000 MHz. You may also contact the office or one of the state vessels for the correct time.
- \* Be on the fishing grounds before the openings, especially if boats are present. If you aren't camped in the fishing area, you might want to take a ride in the skiff to check if any boats cruised in during the night.
- \* While on the water, position your skiff out of the immediate fishing areas, yet where a majority of the boats can be viewed. If a seiner is near your boat and appears to be ready to make a set, motor out of his way slowly so you don't spook the fish.
- \* Stay out of the way of boats for safety and less aggravation to the fishermen.
- \* Write down boat names, noting which are tenders, gillnetters, or seiners for later entry into the daily log forms. Also the list is useful for tallying catch estimates for individual boats.

- \* Be cautious when motoring around gillnets, as buoys tend to have trailing lines, which may float.
- \* Use caution when mooring to tenders, as they often can't see the skiff when it is tied up. Don't park under the fish pump discharge or else you'll end up with a boat full of slimy herring scale water.
- \* Use caution in the skiffs around aircraft, especially when they are landing, taking off, or taxiing. In areas with high air traffic, avoid motoring under aircraft circling patterns as much as possible.
- \* Urgency for collecting catch estimates is dictated by the level of fishing activity. This is most critical when approaching the guideline harvest level. Catch estimates from fishermen are more likely to be low than high. Use your best judgment, although round a figure up rather than down if in doubt.
- \* Occasionally you are able to roughly guess the amount of catch in a seine net, but wait for the skipper's best estimate when possible; figures given after brailing or pumping fish on board are the most accurate. Depending on the size of a brailer the load may vary between 500 pounds to 1,000 pounds. Also, boats wrap chain around their seine and pull the entire bag of fish aboard in the net. With this method, weights vary from a few hundred pounds to a ton, maximum. By counting the number of brailer loads, you can estimate the catch weight. Always ask the skipper what his best estimate is for his catch.
- \* Use common sense when pulling up to a working boat. **DO NOT INTERFERE.** Beware of the skiff towing line attached to seiner's stern. Also avoid water discharges from fish pumps commonly used on seiners and tenders.
- \* Cautiously approach a seine boat **AFTER** the seine has been pursed. Motors spook herring and could cause them to dive below the seine before it is closed.
- \* In sections with high effort levels, it may be necessary for the field crew to make and relay preliminary estimates of the catch in order to ensure that the GHL is not greatly exceeded so that timely short notice closures can be made. Field crews may not have time to gather operator estimates of harvest but rather call the office with their own (more quickly acquired) estimates of the catch. Fishery managers may delegate field crews authority to close an area if necessary.
- \* Do not give out any boat's catch estimate figures to other vessels. This information is confidential.
- \* Field crews do not calculate roe percentage or get involved in deciding whether herring are marketable or not. Leave this task to the permit holder. **Don't ever get involved in a decision of whether to keep or release fish due to ripeness, male counts, or marginal roe percentage.**

## GUIDELINES FOR ISSUING SHORT NOTICE CLOSURE ANNOUNCEMENTS

- \* When a GHL is approached, extra radio schedules/phone calls may be needed to monitor catch progress. If you believe the fishery could reach the GHL prior to the next radio schedule, and the management staff has given you the authority to close the bay to fishing, do so whenever you best believe that the GHL has been reached or is approached. It is important that the harvest be limited closely to the GHL for a section. In areas which have high effort levels and catch rates this may be difficult to achieve. Harvests may exceed or fall short of the GHL for a section.
- \* When it is necessary to issue an emergency closure, be sure to decide on a specific closure time. The advance notice time for a closure may be less than five minutes. All fishing boats and tender operators are required to monitor VHF channel 6. Permit holders have also been notified in the harvest strategy that in-period (emergency closures) may occur with little advanced notice. Field

crews should notify boats and tenders of the intended closure time in-person if possible. Try to notify at least one vessel in each seine combine or the tender of a combine. Remember that gillnetters have four hours to retrieve their gear after emergency closures. Note that after an emergency closure has been issued a gillnetter can not set or reset their nets during the four hour period they have to retrieve their gear. In no instance does this extra time extend past the normal 12:00 NOON even-day closure time.

- \* Prior to any closures, become familiar with the fishing regulations. Know the point at which a seiner or gillnetter can be declared as not legally fishing. **For seiners the ends of the net must be together to be considered stopped fishing. For gillnetters, the entire net excluding anchors must be out of the water to be considered to have stopped fishing.**
- \* If a fishing violation occurs, document the action with a written statement concerning the time of violation, vessel involved, witnesses present, what the violation is, where occurred and why occurred. It is important to take photographs or videos of vessels, gear, or illegal actions if at all possible. Try contacting the office immediately. No further action should be done on your part; you are an observer only. **A handout concerning reporting procedures for violations is included within the herring notebook you have received.**
- \* Due to the competitive nature of the herring fishery, fishermen sometimes "jump the gun" and start setting gear early, i.e. before NOON. Additionally, fishermen occasionally have a late showing of fish near the closure time or mechanical problems, which may prevent them from pulling all the gear on a timely basis. Document the action and time and relay the information during the next radio schedule. **We do not have the authority to force fishermen to release illegally caught fish.**

**Remember that you are the “eyes and ears” of the herring fishery monitoring program.**

## **RECORDING OF DATA FOR THE DAILY HARVEST FORM**

A Kodiak herring fishery daily summary log has been provided in the Herring Notebook, which is to be filled out daily concerning fishery activity in the section you are monitoring, (Appendix B1). An example of how the form will be filled out is included in the herring notebook. If you are covering several areas and have only a few vessels in each area, you can enter the information on a single page. Be clear about what was caught and by whom for each area. This form will be used postseason to edit fish ticket data. Rite-in-the-Rain notebooks should be used to record rough data, on board tenders, etc., which is then later entered into the daily log forms. Emphasis is placed on accurate recording of data and it must be legible. Data to be recorded includes a listing of all fishing boats and tenders with catch estimates.

In the comment section, enter other pertinent information such as: weather, radio reception, plane sightings, information gained from fishermen or pilots regarding your area, camp repairs, animal problems, sample collection, and supply arrival. Copies of marine charts are provided for the areas you are monitoring, please write on maps with seine and gillnet set locations and approximate harvests and dates of harvest. The notebooks should be returned to Joe or Geoff completed at the end of the herring season.

Please include biomass estimates from spotters and spawn observations. If spawning occurs within the area you are monitoring, please attempt to document the extent, timing, document and map the location, and estimate the number of layers of eggs observed.

## GUIDELINES FOR COLLECTING HERRING SAMPLES

**Collect 400 to 500 seine caught herring total from each section.** If possible try to take samples from several seine sets, such as 100 herring from each set. It is not always possible to obtain this sample size and a smaller sample is better than no sample.

**Smaller samples (200 to 300) fish should also be taken from gillnet harvests.** Gather a few bags from several boats, not one large sample. Place 60 to 80 fish in each bag. Clearly mark all samples with a tag on each bag and a label within each sample bag with the date, Bay name and stat area, boat name, size of set (tons), and your name.

## SAFETY TIPS

When working in remote areas, safety is a priority. Get into the habit of thinking ahead; formulate a course of action if the unexpected happens. Make it a common practice to take tools, flares, VHF, EPIRB, and some food, during all skiff outings. Think about the slim but possible occurrence of the outboard dying then being forced to walk along the beach back to camp. **You must wear an exposure suit at all times when you are in the skiff or raft.**

Raft journeys normally are safe when the seas are relatively calm. If you're away from camp for a period of hours, beware of changes in wind speed and direction or snow squalls causing white-out conditions. Weather changes quickly at times, so be observant to avoid potentially dangerous situations in rough seas. Do not hesitate to request help from fishing vessels or tenders.

## EMERGENCY SITUATIONS

If an emergency occurs contact: the Coast Guard Search and Rescue Emergency at Telephone Number 1-800-478-5555, or the Coast Guard Communications Station Kodiak (CommSta Kodiak) on SSB channel that are located in several remote locations around Kodiak Island which enable broadcasts on Channel 16 to 4.125 MHz or VHF channel 16. (The Coast Guard uses repeaters to reach them).

Most fishing boats also can be contacted for assistance on VHF channel 6 and 16. If you have an emergency don't hesitate to contact vessels in your area for assistance.

If you can't get through directly to the Coast Guard contact the ADF&G office 907-486-1830 or the department cell phone at 907-539-5495. The department cell phone will be monitored 24 hours a day.

ADF&G will be standing by on the SSB office radio from 8:00 AM to 4:30 PM weekdays. ADF&G vessels K-Hi-C or Resolution will generally monitor SSB channel 3.230 MHz from 6:30 AM to 11:00 PM daily.

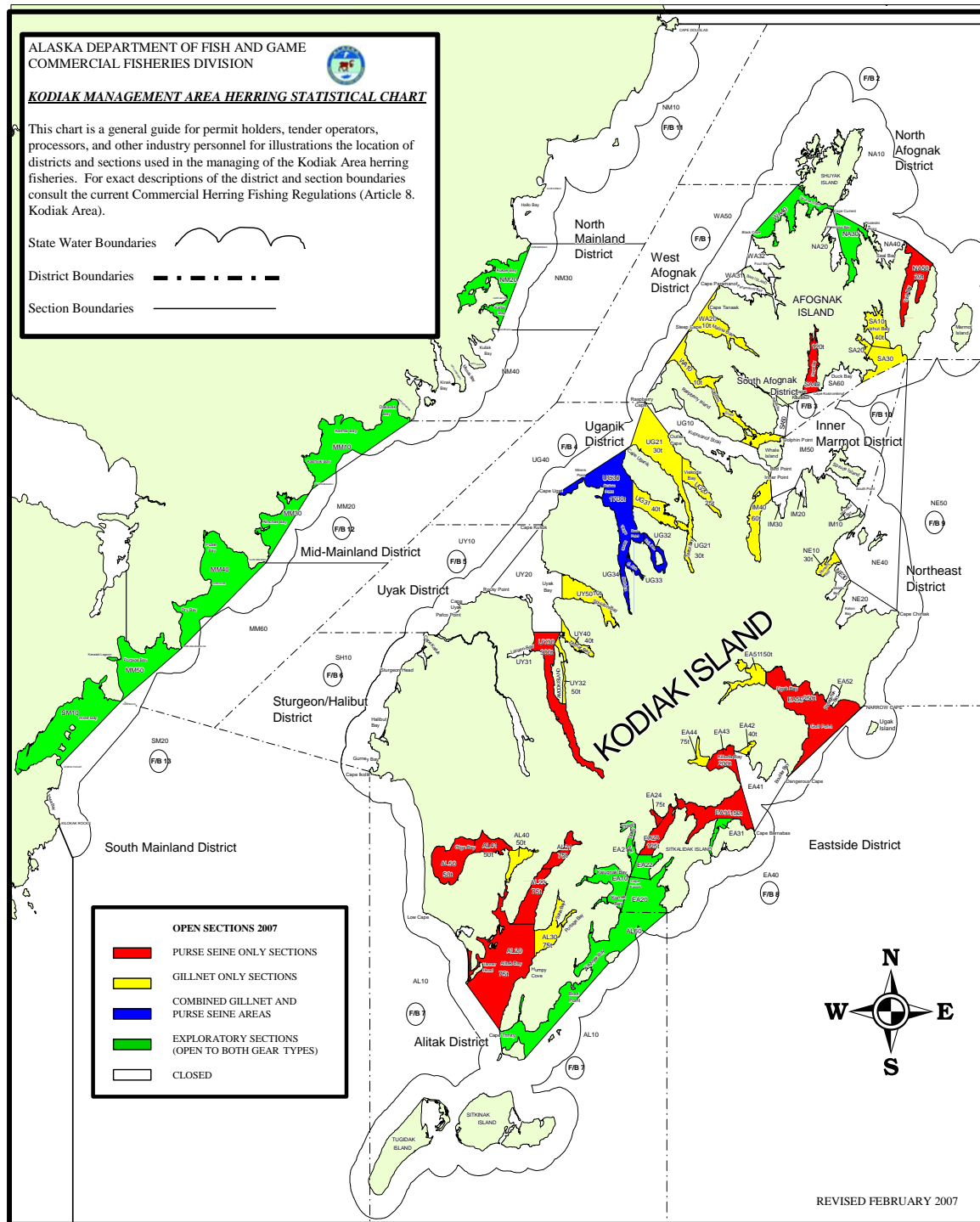
When you arrive at your camping spot, take a minute to calculate the lat/long. This knowledge will expedite an emergency rescue. If you need emergency rescue and phone and radio contact cannot be established turn on the EPIRB.

## **REFERENCES CITED**

- ADF&G (Alaska Department of Fish and Game). 2006. Statewide Commercial Herring Regulations, 2006-2007. Alaska Department of Fish and Game, Division of Commercial Fisheries, Juneau.
- Wadle, J., G. Spalinger, and J. Dinnocenzo. 2007. Kodiak management area herring sac roe fishery harvest strategy for the 2007 season. Alaska Department of Fish and Game, Fishery Management Report No. 07-XX, Anchorage.



## **FIGURES**



**Figure 1.-Map of the Kodiak herring sac roe fishery by harvest areas, 2007.**

## **APPENDIX A. FIELD CAMP FIRST AID KIT**

**Appendix A1.**-Field camp first aid kit extras.

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**The following are approved expenditures in addition to the normal first aid kit items necessary to treat injuries:**

Analgesic medications i.e. aspirin, acetaminophen, ibuprofen, etc.

Antacids

Antidiarrheal medications

Antihistamines

Bug Repellant

Cold Medicines i.e. Benadryl, Nyquil, Sudafed etc.

Cough Syrup

Decongestants

Epi-Pen (auto injector containing epinephrine)

Hand Mirror (for use getting an item out of an eye)

Laxative

Lip Balm

Seasickness Pills (for vessels)

Sunblock

The following purchases are **NOT** approved:

Aromatherapy products

Homeopathic products

Vitamins

Flu Vaccinations

This list is not intended to be all-inclusive but is an example of the types of items that are allowed to be purchased.

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## **APPENDIX B. DAILY SUMMARY LOG FORM**

**Appendix B1.-Kodiak Herring fishery daily summary log form.**

<b>KODIAK HERRING FISHERY DAILY SUMMARY LOG</b>			
NAME MANAGEMENT SECTION:			
DATE:		CLOSING 12 NOON:	
BOAT NAME	HARVEST	BOAT NAME	HARVEST
1		26	
2		27	
3		28	
4		29	
5		30	
6		TOTAL:	
7			
8		TENDERS	TONS
9		1	
10		2	
11		3	
12		4	
13		5	
14		6	
15		7	
16		8	
17		9	
18		10	
19		11	
20		12	
21		TOTAL:	
22			
23			
24		CUMMULATIVE BAY CATCH:	
25			
WEATHER CONDITIONS:			
REMARKS: Spawn or biomass estimates, roe recovery, samples taken, etc.			